

Section A: Project Title and Purpose Statement.

Project Title: Building Community Capacity to Protect Air Quality and Environmental Health

Location and Target Audience. This project will focus on environmental health issues faced by residents of Kansas City, Kansas (KCK), particularly in the communities most affected by goods movement (aka freight transportation) diesel emissions, including the Argentine, Central Industrial, Downtown, Fairfax, Turner, and Quindaro NE neighborhoods. KCK zip codes are: 66101, 66102, 66103, 66104, 66105, 66106, 66109, 66110, 66111, 66112, 66115, 66117, 66118, 66119, and 66120.

Organizational Background. This proposal is submitted by the Diesel Health Project (DHP), a Kansas not-for-profit corporation. The DHP is a participant in development of a new regional organization, the MoKan Clean Air Coalition (working title), and is the regional member of a national organization, the Moving Forward Network. Both groups will provide support to this project.

Summary Description, Purpose, Goals, and Environmental Statute. Our purpose is to build an interdisciplinary and collaborative regional coalition, the MoKan Clean Air Coalition, focused on air pollution environmental health issues, and to help EJ communities in KCK build sustainable capacity to identify environmental justice problems, enhance problem-solving, and protect themselves from air pollution, particularly traffic related air pollution from freight transportation. It is anticipated that the MoKan Clean Air Coalition will be comprised of various academic, medical and public health professionals who can provide expertise to the proposed project.

Our goals are to: (1) train community residents on the health risks of goods movement air pollution, particularly diesel exhaust emissions, and how they can reduce exposure; (2) Identify the most overburdened neighborhoods, and train and work with them collaboratively to identify issues, define visions, and set goals;(3) and build long term collaborative relationships through the newly developed MoKan Clean Air Coalition; This project supports the Clean Air Act, Section 103(b)(3).

Section B: Environmental and Public Health Information about the Affected Community.**The local environmental/public health issue the project will address.**

Through interdisciplinary regional collaboration, this project will address the air pollution and negative public health impacts of goods movement (aka freight transportation) diesel exhaust emissions and how it can be mitigated. Freight traffic on rail and truck is projected to greatly increase throughout the Kansas City metropolitan area in the coming years. This is due not only to a projected 122% increase in imports and 139% increase in exports by 2040 (Source: USDOT), but also rapid growth in the transportation of petroleum and ethanol by rail. For example, the new BNSF Intermodal & Logistics Park KC is projected to handle 1.5 million freight containers per year and generate tens of thousands of new heavy diesel truck trips per day to all points on

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the compass, throughout the metropolitan area. The impacts of this increased activity will affect a wide range of neighborhoods in NE Kansas and SW MO. Not all neighborhoods will be as resilient as others and connecting the broad range of stakeholders interested in air quality and public health will be critical in advancing environmental justice in the region.

As has been well documented by the EPA and many researchers, the diesel exhaust pollution generated by rail and truck freight traffic is extremely dangerous. Diesel exhaust is identified as a carcinogen by the World Health Organization, and is linked to asthma, heart disease, respiratory disease, diabetes, obesity, reduced lung function in children, and premature death. Several research studies, including a 2013 Harvard study “Perinatal Air Pollutant Exposures and Autism Spectrum Disorder in the Children of Nurses’ Health Study II Participants” have strongly linked diesel emissions to Autism Spectrum Disorder.

While EPA has made progress in recent years in mandating lower emissions from new diesel engines, the agency acknowledges that millions of older technology diesel engines in the current fleet are a continuing source of emissions and may persist for decades. (Update on Diesel Health Issues and EPA Actions, Chad Bailey, EPA Office of Transportation and Air Quality (OTAQ), May 21, 2014 presentation.)

As demonstrated by diesel exhaust Black Carbon monitoring the Diesel Health Project conducted in 2014 with our non-profit partner Global Community Monitor and shared with EPA Region 7, this community is subjected to high levels of diesel emissions along the boundaries of at least one rail yard. (KC Star, “Diesel fumes near Kansas City, Kan., rail yard pose health threat, report says,” July 12, 2014)

The local environmental/public health results the project will achieve. We will deliver the following results: (1) identification of the neighborhoods most overburdened by goods movement air pollution; (2) residents in the three most overburdened neighborhoods trained regarding the risks of diesel exhaust exposure, how they can reduce their personal and family exposure, and how can work together to improve the health of the community; (3) use the CPS model to collaboratively identify issues, develop a vision and set goals in those neighborhoods, 4) develop collaborative relationships between and among KCK community groups, the MoKan Clean Air Coalition, community health organizations, environmental, public health, and other academic programs throughout the region, as well as with other members of the national Moving Forward Network.

The characteristics of the affected community. Kansas City, Kansas, with a 2013 population of 148,483, is one of the most racially and ethnically diverse cities of its size in the State of Kansas. In 2010, its population was approximately 50% White, 27% Black or African American, and 28 % Hispanic. KCK is the poorest city in the metropolitan area, with over 28% of residents living below the poverty level. In 2010, median household income in KCK was \$33,011, compared to the metropolitan average of \$53,919. KCK has a long history as a major freight center, and has the second largest rail yard in the U.S., large concentrations of warehouses and trucking-related businesses, and heavily traveled freight routes. The Diesel Health Project has

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found high levels of Black Carbon in KCK rail yard fenceline communities, a likely contributor to the poor health outcomes documented in the following section.

How the affected community may be disproportionately impacted by environmental harms and risks. High levels of rail yard and traffic related air pollution may be one of the reasons that KCK residents suffer more than most metropolitan area residents from the following health problems, all of which have been linked to traffic related air pollution: (1) infant mortality over 30% higher than the State of Kansas, which has the highest Black infant mortality rate in the US, (2) second highest percentage of low-weight babies in the metropolitan area, behind Jackson County, (3) highest rate of pediatric asthma in the metropolitan area, (4) highest obesity and diabetes rates in the metropolitan area, (5) highest heart disease rate of the urban counties in the metropolitan area, and (6) highest Years of Potential Life Lost in the metropolitan area, except for rural Allen County. (Sources: MARC Regional Health Assessment Report and Kansas Health Institute, 2013)

How the affected community will benefit from the project's local results. The community will benefit from the results of this project as follows: (1) identification of neighborhoods most disproportionately affected by diesel exhaust emissions, and consensus on priorities; (2) development of a sustainable capacity to identify environmental justice problems, conduct problem-solving, and protect themselves from air pollution, particularly goods movement air pollution; (3) improved knowledge of residents concerning the risks of traffic related air pollution, particularly diesel exhaust, and how to mitigate and lessen exposure to it; and (4) reduced exposure to diesel emissions due to training in limiting exposure,

Section C. Organization's Historical Connection to the Affected Community,

The history of the organization's involvement with the affected community. The Diesel Health Project (DHP) has been involved with this community for almost two years and some DHP members much longer.. Richard Mabion, longtime KCK environmental activist, and President of the KCK Chapter of the NAACP and Eric Kirkendall partnered in February, 2013 to host a bus tour for the New Partners for Smart Growth Conference of EJ neighborhoods surrounding the BNSF Argentine Rail Yard. In conjunction with the tour and the annual meeting of the national Moving Forward Network, they hosted a public meeting at the Argentine Community Center to discuss the risks of diesel exhaust particulate matter, and how community members can collaborate to make their neighborhoods safer.

Shortly thereafter, they formed the Diesel Health Project, a Kansas not-for-profit corporation. Leticia DeCaigny lifelong KCK resident and board member of the Argentine Neighborhood Development Association and Argentine Healthy Food Council joined soon after. Under her leadership, funded by the Kresge Foundation, and with technical support from the Global Community Monitor, the DHP trained community residents in air pollution risks and monitoring in the winter of 2013, and began monitoring in the yards of residents' homes and businesses near potential diesel emissions hotspots soon thereafter.

Project: Building Community Capacity to Protect Air Quality and Environmental Health**How the applicant has worked with the affected community's residents and/or organizations.**

Team members have made presentations to many community groups in KCK, including Livable Neighborhoods, the monthly meeting of all the Argentine Neighborhood groups, and more. Over 20 residents have been trained in the use of the AirMetrics MiniVol Portable Air Sampler, and monitoring has been conducted at several locations. A local organization, the Good Neighbor Committee of Argentine/Turner, was formed to lead decision-making and discussions with the BNSF concerning high levels of airborne Black Carbon found in the yards of residents and businesses,

In early 2014, the DHP team proposed to a national environmental organization, the Moving Forward Network (MFN) that they form a Kansas City regional air quality coalition, and that Kansas City be accepted as a region in the MFN. The proposal was approved, and as a result, the DHP will receive financial and technical support from the MFN in 2015. The MoKan Clean Air Coalition planning committee, which includes the DHP team as well as KU and Children's Mercy Hospital environmental experts, Sierra Club members, and others, will conduct our kickoff meeting in March, 2015 at the KU Edwards Campus.

How the affected community's residents and/or organizations are part of the decision-making process.

KCK residents have had complete decision-making authority over communications and monitoring in their community, with technical support provided by Global Community Monitor. All decisions regarding monitoring, as well as the meetings held with EPA Region 7 and the BNSF after high levels of Black Carbon were found, have been made by KCK residents DeCaigny and Mabion, and other members of the Good Neighbor Committee of Argentine/Turner.

While the Diesel Health Project accomplished this in a relatively informal way, the governance of the MoKan Clean Air Coalition is being structured to formally ensure that community residents and organizations have a decisive role in the regional decision-making process, and a strong role in the governance of the national Moving Forward Network. As described in the MoKan Clean Air Coalition Organizational Outline, "*Coalition partners will contribute, share, and create together, governed by a board of directors structured to ensure communities have a strong voice in decision-making. The coalition will be the Kansas City regional governance organization of the Moving Forward Network.*"

How the applicant's efforts have increased the community's capacity to address local environmental and public health issues.

The work of the Diesel Health Project empowered community residents to (1) begin monitoring for diesel emissions, (2) learn from the results that they are faced with potentially dangerous levels of Black Carbon from diesel emissions, and led them to (3) form a new community group, the Good Neighbor Committee of Argentine/Turner, (4) meet with EPA Region 7, and (5) open discussions with BNSF on how to mitigate the pollution.

How the organization maintains and sustains an ongoing relationship with the affected community's residents and/or organizations. The Diesel Health Project continues to be engaged with the community, supporting the Good Neighbor Committee of Argentine/Turner's discussions with the BNSF, and conducting air quality monitoring. KCK residents Richard Mabion and Leticia DeCaigny and Eric Kirkendall are involved with the Good Neighbor Committee, Diesel Health Project, and Moving Forward Network. At the time of this writing the Committee and the people named here are working together to plan our second meeting with BNSF regarding the high Black Carbon levels our monitoring revealed.

Section D. Project Description.**Section D.1: A concise description of the activities the project will undertake.****The local environmental and public health results the project seeks to achieve.**

We will achieve the following outputs during the period of performance, using analytical and GIS tools, the CPS model, and Particulate Matter monitoring tools and analysis.

- An inventory and ranking of "hot spots" in KCK, the most overburdened neighborhoods where goods transportation terminals and rail yards intersect with high traffic roadways near populated areas. We will measure Particulate Matter at selected locations.
- Training materials, training delivery, collaborative issue identification, vision development, and goal setting in 3 of the neighborhoods most overburdened by diesel emissions, leading to increased community empowerment.
- Sustainable formal and informal collaborative relationships between and among KCK community groups, community health organizations, environmental, public health, and other academic programs and the MoKan Clean Air Coalition and national Moving Forward Network that will allow training, assessment, planning, and public health improvements to continue for many years.

We will continue working in KCK following the period of performance, so we can help the community achieve the following outcome.

- Implementation of measures to reduce goods movement diesel exhaust exposure by governmental, private sector, and community organizations, such as but not limited to an idle reduction ordinance, buffer zone requirements, zoning code improvements, implementation of physical barriers, truck route restrictions, improved enforcement of existing ordinances, and infrastructure design changes.

How the project will achieve these results.

Our Initial Milestone Chart shows high level descriptions of the activities necessary to achieve them, as well as roles, responsibilities, and durations. Our logic model provide more information on inputs, activities, and outputs.

Work Plan. Applicant: Diesel Health Project

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Initial Milestone Chart, w Activities, Roles, Responsibilities, and Tools

How the organization's efforts will increase the community's capacity to address local environmental and public health issues.

We will help overburdened communities build a sustainable capacity to address local environmental and public health issues by working collaboratively with community groups during the period of performance, providing training, and by encouraging them to join us in a long-term collaboration by becoming members of the MoKan Clean Air Coalition. This will allow them to be part of a larger collective voice, have a seat at the table when important decisions are made, and to access environmental health resources from throughout the region, and from the national Moving Forward Network of community groups across the U.S. Our evaluation of the success of this project will guide the efforts of the MoKan Clean Air Coalition in future years.

How the project is related to the environmental statutes you identified.

This project supports the Clean Air Act Section 103(b)(3) by carrying out activities that support EPA Strategic Goal 3: Cleaning up Communities and Advancing Sustainable Development, the objective to “Promote Sustainable and Living Communities,” and the EPA Cross-Agency Strategy, “Working to Make a Visible Difference in Communities.”

Section D.2: A concise description of how the organization & partner(s) will work together.**The role of your partner(s) in addressing the local environmental, & public health issue(s).**

The Moving Forward Network (MFN) will provide research, legal assistance, emissions monitoring, and media resources to the Diesel Health Project. Specifically, support will come from the University of Southern California, Keck School of Medicine, Natural Resources Defense Council, Global Community Monitor, and Fenton Communications. In addition, the Diesel Health Project will receive support from MFN staff Martha Matsuoka (coordinator), Angelo Logan (Campaign Director), and Jessica Tovar (Project Director) all of whom have extensive knowledge and experience working on environmental justice, health, and ports and freight transportation.

The University of Kansas Environmental Studies Program will provide the support of approximately 40 students in Capstone classes to the Diesel Health Project. They will work on a range of tasks to support this project, including compiling and synthesizing the relevant literature on air quality, public health outcomes, transportation planning, environmental justice, and community based participatory research. The class will also work to identify additional community stakeholders (faith based organizations, neighborhood associations, etc.) and develop outreach material.

The Children's Mercy Hospital Center for Environmental Health will provide consulting on data sources and analytical methods, analyze health data, and provide air monitoring tools

The MoKan Clean Air Coalition serve as a locus of and forum for collaboration, and provide expertise and assistance to this project.

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Global Community Monitor will provide technical support for diesel emissions monitoring and analysis.

Mikhail V. Marchenko, University of Kansas Graduate Student in Professional Science in Environmental Assessment will provide 100 hours of consulting, review, editing, training, and other project support.

The nature of the organization(s), and what resources they bring to the partnership.

The Moving Forward Network (MFN) is a national network of community-based organizations, researchers, and advocates who work together to build capacity of local and regional organizations to address the negative impacts of ports and freight transportation. The network serves to facilitate and provide research support and technical assistance to community-based and EJ organizations on the front lines of ports and freight transportation corridors. The Moving Forward Network will be working over the next year to seek policy solutions that:

- Reduce diesel emissions to improve public health
- Ensure advancement of zero emissions technologies
- Increase public engagement in planning processes related to port and freight transportation projects.

The campaign will focus in five regions - Kansas City, Southern California, New York/New Jersey, Houston, and Oakland/Central Valley - and involve the research, scientific, legal, policy, and media resources provided through the Network.

The University of Kansas Environmental Studies Program is an interdisciplinary academic education and research program, with faculty from professional schools, natural sciences, social sciences, and humanities.

The Children's Mercy Hospital Center for Environmental Health is a nationally recognized program providing environmental health consulting, patient case management, research, education, training, and analytical services. It helps improve and advocate for the health of individuals with environmentally triggered illnesses.

The MoKan Clean Air Coalition is a community-based equitable partnership of community groups, educational, research, environmental, and health organizations dedicated to improving air quality in the Kansas City region, particularly in communities suffering the greatest health burden, and to preventing and mitigating disease caused by air pollution.

The coalition focuses on the communities most threatened by air pollution, particularly those with multiple, disproportionate environmental health burdens; population vulnerability; and limits to effective participation in decisions with environmental and health consequences. The coalition will present a united voice to governmental agencies regarding air quality issues and seek a seat at the table for decision-making that can affect air quality in the region.

The coalition is being developed by a steering team composed of individuals in leadership roles at a number of KC-area organizations, including the Diesel Health Project, the KCK chapter of the NAACP, the Argentine Neighborhood Development Association, the University of Kansas Environmental Studies Program, Childrens' Mercy Hospital, and the Sierra Club. At the time of this grant application, the group has not been formally chartered, but it will be by the time of its kick-off meeting in March, 2015.

How the partner(s) has a vested interest in working with this partnership.

This project is a continuation and enhancement to work already underway and successes achieved with participation of the project staff and the institutional partners. Most of these partnerships have been in place and operational for approximately 1-2 years, and most of the participants have been doing this work for no or little compensation.

How the applicant plans to maintain and sustain the partnerships.

The partners work and collaborate together at the local, regional, and national levels, a process that will continue through and beyond the end of this project. The PM of this project, Eric Kirkendall, is co-founder of the Diesel Health Project and MoKan Clean Air Coalition, and member of the advisory board and communications consultant to the national Moving Forward Network. All of the individuals and institutions listed here are collaborating to form the MoKan Clean Air Coalition, which will formally launch in March, 2015, and become the regional representative to the Moving Forward Network, which will provide funds, technical assistance and more.

Section E. Organizational Capacity and Programmatic Capability.

The PM of this project, Eric Kirkendall, is a retired Federal manager with extensive experience managing complex projects and contracts, and millions of dollars in Federal funds. However, the applicant, the Diesel Health Project, has no prior experience managing Federal funds.

Section F. Qualifications of the Project Manager.

The PM Eric Kirkendall has Masters Degrees in Urban Planning and Public Administration, and a B.A. in Geography. He has managed people, projects, and programs for the Federal government, a Fortune 500 corporation, his consulting firm, and non-profit organizations for over 35 years.

He has extensive planning facilitation, negotiations, transportation planning, budgeting, HR, project and program management, IT, strategic and business planning, business process improvement, federal procurement and other experience from management positions at NASA, Sprint, and the USDA.

He formed and runs a consulting firm, ITSM USA, through which he has provided the services of himself and others to the non-profit and for-profit sector. He is currently communications

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consultant to Occidental College in Los Angeles, and an advisory board member to the Moving Forward Network.

He has formed, provided start-up funds for, and run two nonprofit organizations - the Lawrence Creates Makerspace, a community organization which provides facilities, tools, services, and training in skills ranging from metal-work to software development with the goal of increasing individual and collaborative entrepreneurship; and the Diesel Health Project, the applicant for this grant. Among his accomplishments:

- At NASA, managed agency-wide systems development projects, led an agency-wide strategic planning study which led to the development of an agency-wide data management program, and developed a software development lifecycle guidebook which was voluntarily implemented at several NASA installations.
- At USDA's national data center in Kansas City, as IT Service Manager (a branch chief position) led the successful planning, development, implementation, and automation of best practice IT business processes for this \$100 million fee-for-service organization.
- At USDA, as chief of the branch responsible for acquiring enterprise data center hardware, software, and services, implemented leading edge negotiations processes and re-engineered the business processes used to procure enterprise software at the NITC, saving taxpayers millions of dollars a year. For example, renegotiation of one software contract a year prior to its expiration achieved cost savings of over \$5 million over five years.
- Consultant to a Sprint product development organization. IT member of the team that reengineered the product development process for this multi-billion dollar international corporation.

Section G. Past Performance in Reporting on Outputs and Outcomes.

The Prime Investigator of this project, Eric Kirkendall, has several years of Federal management experience devising output and outcome measures, and reporting on them at the headquarters level. However, the applicant, the Diesel Health Project, has no relevant past performance reporting on outputs and outcomes.

Section H. Quality Assurance Project Plan (QAPP) Information.

This project will involve the collection of environmental data, and will require a QAPP.